DECISION SUPPORT SYSTEMS FOR SELECTION OF AN EMPLOYEE IN POSITION PT.JAMSOSTEK (PERSERO)

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ABSTRACT

PT. Jamsostek is a public program that provides protection for workers to overcome the risk of certain socioeconomic and operate using the social insurance mechanism. In the flow of work, there are many human resources who have an important role, one of them is human resources management personnel. Some human resource management staffing constraints is there are many important positions in the PT. Jamsostek has many vacancies. The number of employees is too many, so that the planning stage of each employee;s career is difficult and it spent a lot of time. Some problems that occur in the employee performance appraisal process becomes quite complex, especially if some employees who have the ability and some other considerations that are not much different. Based on test result, the data processing done through computerization much better than the manual way is more efficient and effective.

In this decision support systems for selection of an employee in position PT.Jamsostek, the writer uses the descriptive research method, which the collecting data the use is observing by examine the work process directly that has been done in interview, that is, making a dialogue directly with treated arbitrarily people who gives authority in giving the explanation or information of data need and studying literature by finding out supporting bibliografphies in data analyzed technique. The writer uses the method which is supporting the software according to waterfall whereas for data modeling uses the structured method. That is ERD (Entity Relationship Diagram) to illustrating data model and DFD (Data Flow Diagram) to illustrating functional model.

After having through this phase in accordance with of method decision support systems selected , so it can implement the method using gap analysis methods and has taken advance in system examination that consist of alpha examination which the examination uses the method of black box examination focused of software functional requirement and beta examination. That is field examination with data tabulating as an accurate value selection result.

Keywords : Decision Supprot Support, Gap Analysis, Increase Position

1. INTRODUCTION

Indications of this final assignment problem is "How to build a decision support system for selection of an office employee at PT. Jamsostek ". While the intention is to Build Decision Support System for Employee Selection for a Position at PT. Jamsostek.

General purpose of the writing of this final task is to:

1. In order to facilitate the work of employees in the HR for the promotion process.
2. Reduce burnout and human error, so that will improve work ethics in analyzing some employees who fit calculation according to occupy a certain position.
3. Can provide facilities in which employees make decisions in accordance with the vacant position.

To achieve the aims and objectives set forth above, then the discussion is limited as follows :

1. Data inputting selection data requirements, types of point requirements, selection criteria, sub criteria for selection, profile terms of office, provided the employee profile, the profile criteria of the position, the employee profile criteria.
2. Information generated a profile of information requirements of office, provided employee profile information, profile information criteria for the position, employee profile information criteria, the information gap by mapping the position requirement, mapping information gap criteria.
3. Determinants of this decision system based on the requirements and evaluation criteria supporting the standard value of the position..
4. The system is built based applications *Stand Alone.*
5. Models used in decision-making methods *Gap Analysis.*
6. System data flow method using a structured method that is DFD (*Data Flow Diagram*) in depicting functional model and ERD (*Entity Relationship Diagram*) to draw data flow modeling and information, and *Flowmap* to describe the current system.
7. This system was built using the application programming *Borland Delphi 7.0, Database* used *MySQL.*

2. MODEL, ANALYSIS, DESIGN AND IMPLEMENTATION

2.1 Basis Theory

2.1.1 Decision Support Systems

According Keen dan Scoot Morton : "*Decision Support System is a merger of the source - the source of intelligence with the ability of individual components to improve the quality of decisions. Decision Support System is also a computer-based information systems for management decision-making that deal with the problem - the problem of semi structure* ".

With the above understanding could be concluded that decision support systems is not a decision making tool, but a system that helps decision makers with complete information from the data have been processed with the relevant and necessary to make a decision about a problem more quickly and accurately. So the system is not intended to replace the decision-making in the decision-making process.

2.1.2 Gap Analysis Method

Gap analysis is one tool that can be used to evaluate the company's performance, particularly in the efforts of public service provision. The results of the analysis can be a useful input for planning and prioritizing the budget in the future. In addition, the gap analysis or gap analysis is also one of the most important step in the planning stage or stages of performance evaluation. This method is one of the most common method used in the management of the internal management of an institution. Literally the word "gap" indicates that there is a difference (disparity) between one thing with another thing.

Gap would be worth (+) positive when the actual value is greater than the target value, otherwise value (-) negative when the target value is greater than the actual value. If the target value and the greater the smaller the actual value will be obtained widening gap.

2.2 System Analysis

2.2.1 Calculation of the gap analysis mapping

Gap here is the difference between profile positions with the employee's profile or can be shown in the following formula:

Gap **=** *Employee Profile - Profile Position*

As for the collection of gap-gap itself occurs in every sub-criterion has a calculation different. For more details would be presented for each criterion, the table can be viewed as follows:

a. Psychology

On this criterion, do the calculation process the gap between the employee's profile and position profile for each sub-criterion, in the example below table in the psychological criteria of 5 sub criteria. For example, can be seen in table 3.1.

Table 3.1 Criteria Psychology

Sub criteria	Criteria Employee Profile			Criteria Position Profile	GAP		
	240060480	**232279976**	131549871		**2400604800**	**232279976**	131549871
1_1	4	2	4	**5**	-1	-3	-1
1_2	3	4	3	**4**	-1	0	-1
1_3	4	4	3	**4**	0	0	-1
1_4	4	3	4	**4**	0	-1	0
1_5	5	4	2	**4**	1	0	-2

Description:
1_1 : Intelegensial
1_2 : Numerikal
1_3 : Verbal
1_4 : *Measurable and Criteria*
1_5 : *Under Stress Performance*

Can be seen in Table 2.1 that the position profile for psychological criteria are as follows : (1_1) = 5, (1_2) = 4, (1_3) = 4, (1_4) = 4, (1_5) = 4.

Then as an example, taken with the NPP 240060480 employee with the employee profile is : (1_1) = 4, (1_2) = 3, (1_3) = 4, (1_4) = 4, (1_5) = 5.

So that the gap of what happened to the sub criterion of psychology is : (1_1) = -1, (1_2) = -1, (1_3) = 0, (1_4) = 0, (1_5) = 1.

b. Special Ability

The derivation for his field gap was equal to the calculation of the criteria for psychology. Example calculations are presented in table 2.2 :

Tabel 2.2. Special Ability Criteria

Sub criteria	Criteria Employee Profile			Criteria Position Profile	GAP		
	240060480	**232279976**	131549871		**2400604800**	**232279976**	131549871
2_1	2	4	2	**4**	-2	0	-2
2_2	4	4	4	**5**	-1	-1	-1
2_3	4	4	4	**4**	0	0	0

Description
2_1 : Communicate two-way
2_2 : Confidentiality
2_3 : English speaking

Can be seen in Table 2.2 that includes office position profile: (2_1) = 4, (2_2) = 5, (2_3) = 4

Then consider the case for the profile of employees with NPP 240060480 with the following criteria: (2_1) = 2, (2_2) = 4, (2_3) = 4.

So that the gap results occurred for each sub-criterion is : (2_1) = -2, (2_2) = -1, (2_3) = 0.

Having obtained every gap of each employee so each employee's profile is weighted with a standard table values weigh the value gap. As the data presented in Table 2.3.

Tabel 2.3 **Description weigh the value gap**

No	Difference	Weight Value	Description
1	4	5	Competency level 4 individual excess / level
2	3	4,5	Competency level 3 individual excess / level
3	2	4	Competency level 2 individual excess / level
4	1	3,5	Competency level 1 individual excess / level
5	0	3	There was no difference
6	-1	2,5	Lack of individual competence level 1 / level
7	-2	2	Lack of individual competence level 1 / level

8	-3	1,5	Lack of individual competence level 1 / level
9	-4	1	Lack of individual competence level 4 / level

So that each employee will have a table of weights as examples of existing table below

Table 2.4 Results of mapping competency gaps

Sub criteria	Description weigh the value		
	240060480	**232279976**	131549871
1_1	2,5	1,5	2,5
1_2	2,5	3	2,5
1_3	3	3	2,5
1_4	3	2,5	3
1_5	3,5	3	2
2_1	2	3	2
2_2	2,5	2,5	2,5
2_3	3	3	3

With a profile of employees as in the table above and with reference to the weight chart gap values, as shown in Table 2.3.

1 Calculation of Total Value

From the results of calculations on each criteria and then calculated the total value based on the number of weight values and the number of sub criteria. For the calculation can be shown in the formula below:

The total value *(Psycology, a Special ability)* = $\frac{\text{The number of weight value criteria}}{\text{Number of sub-criteria}}$

Table 2.5 The results of the calculation of the average value of the criterion

Criteria	NPP		
	240060480	**232279976**	**142519871**
Np	2,900	2,600	2,500
Nk	2,500	2,833	2,500

Calculation of aggregated for each criterion according to the formula and the results can be seen in the table below the following example how the process by taking the example of the calculation in sub-criteria with NPP 240,060,480 psychology.

The total value = $\frac{2.5 + 2.5 + 3 + 3 + 3.5}{5}$ = $\frac{14.5}{5}$ = 2.900

So that employees with 240060480 NPP has a total value of 2.900

Determination of Final Results Calculation

The end result of this process is the ranking of the candidates proposed to fill a particular position. Determination ranking refers to the results of certain calculations. The calculation can be shown in the formula below:

Ha* = (*x*)%*Np* + (*x*)%*Nk

Description:
Ha : Hasil Akhir (End Results)
Np : Nilai Psikologi (Value Psychology)
Nk : Nilai Kemampuan Khusus (Special Ability Value)
(x)% : Nilai Persen Yang Diinputkan (The Percent value in the input)

For example, employees with NPP 24006480 from the above formula for the calculation of final results of the employee with a sub-criteria with a value of percent = 50% and 50%. Can be seen in the table below:

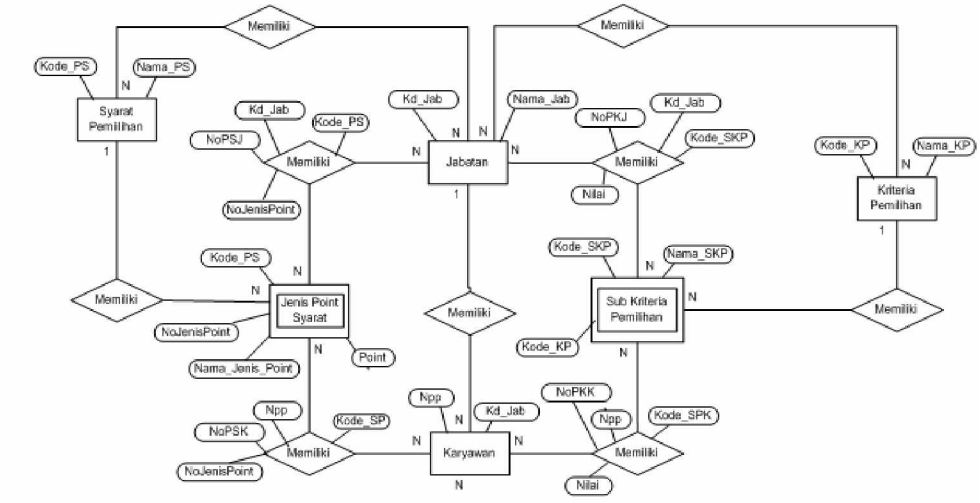
Hasil akhir = (50% x 2,9) + (50% x 2,5) = 2,7
Hasil akhir = 1,45 + 1,25
Hasil akhir = 2,7

Tabel 2.6 Result Decision

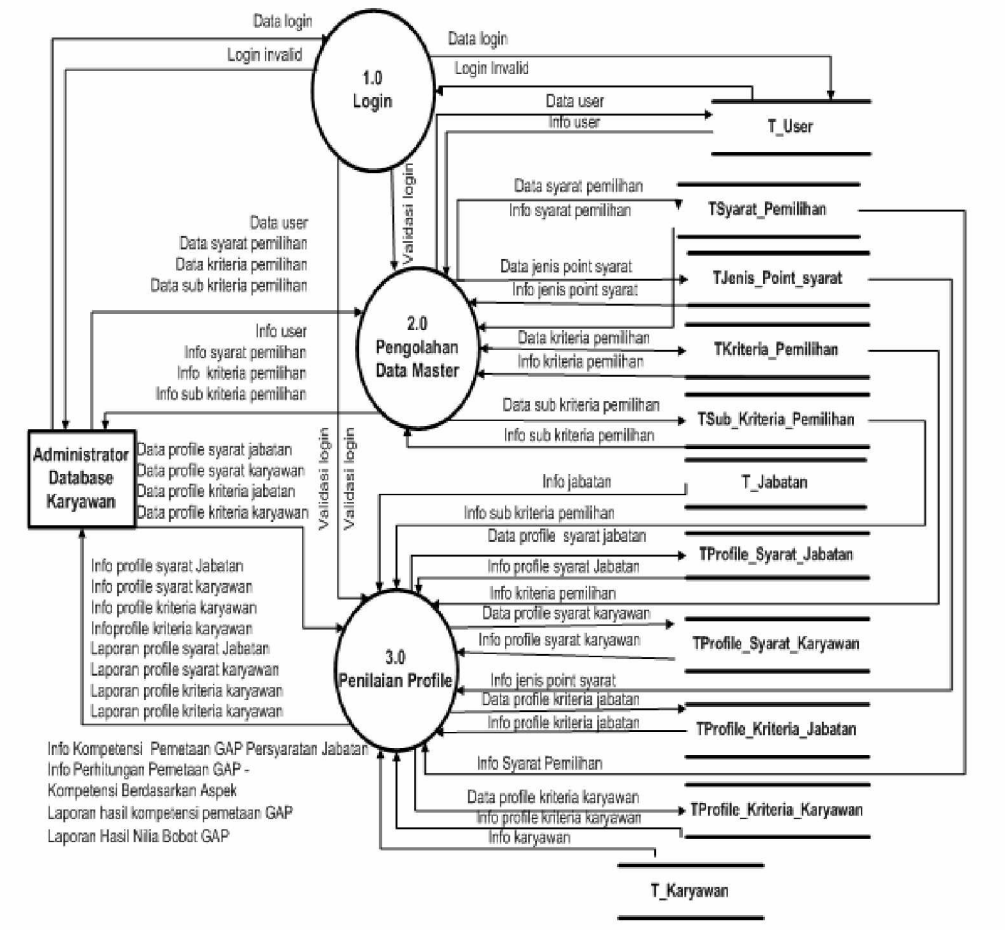
Result Decision	NPP		
	240060480	**232279976**	**142519871**
Np	2,900	2,600	2,500
Nk	2,500	2,833	2,500
Ha	2,700	2,717	2,500
Rangking	2	1	3
Status	Qualified	Qualified	Qualified
Descripti oion	Meet all minimum requirements	Meet all minimum requirements	Meet all minimum requirements

After each candidate getting the end result as shown in table above, then it can be determined after the rating or ranking of each candidate based on final results, ranking the first ranked is the employee with the NPP 232279976 with 2.717 final score qualified statu

2.2.2 ERD

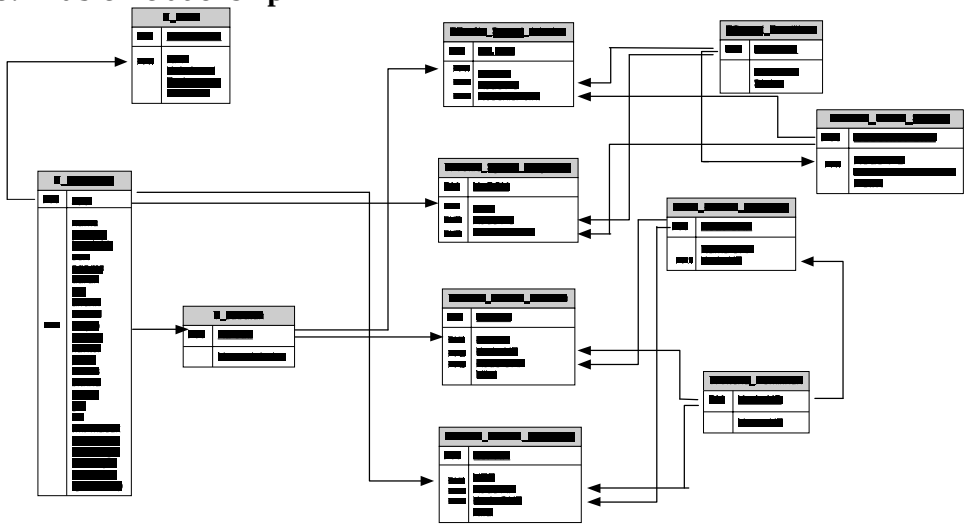


2.2.3 DFD

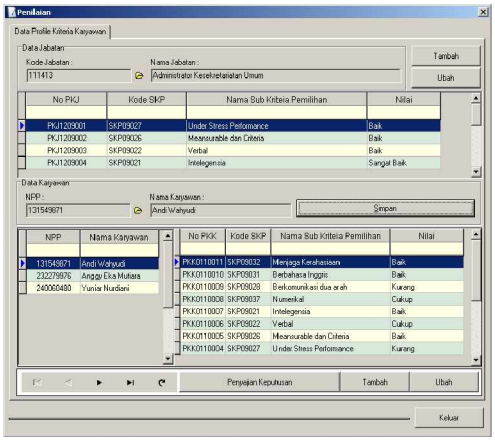


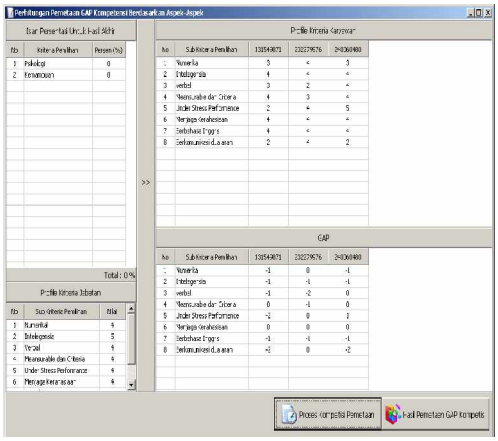
2.3 Design and Implementation

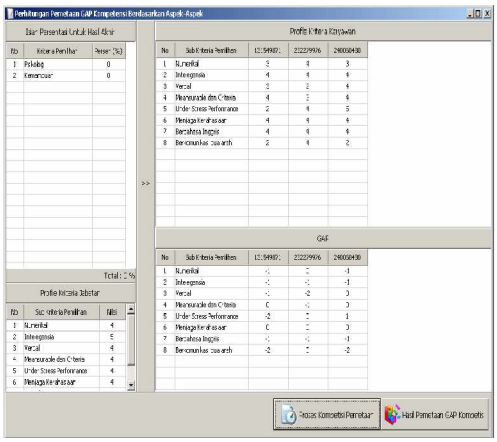
2.3.1 Table Relationship

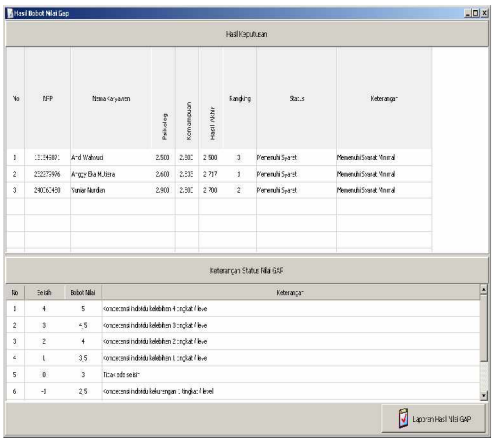


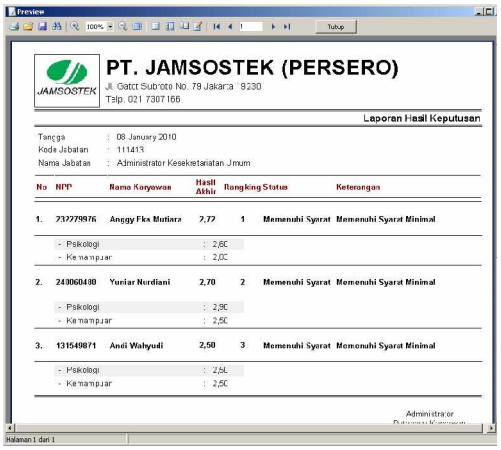
2.3.2 Interface











3. RESULT AND DISCUSSION

From the analysis and the designing that has been done, the result of the constructed application shown as is ad fllows :

1. Development of human resources become the main ingredient as the user in the operation of the computer must already know and understand about the computer application, to minimize the mistakes that occurred in the recording, because this will influence the effectiveness of time and effort.
2. Decision support system and its design is the system so much more widely developed.

4. CONCLUSIONS AND RECOMMENDATIONS

Based on research conducted by the authors of the software development can be concluded for the construction of decision support system is as follows:

1. Decision support system that was built to facilitate the work of employees in the HR for the promotion process.
2. Decision support system that was built to help reduce boredom and human error that will improve work ethics in analyzing several employees who fit calculation according to occupy a certain position.
3. Decision support system that was built to provide facilities in which employees make decisions in accordance with the vacant position.

Based on the above conclusions, the suggestions to be made in order to be input and considerations for better future, is ad follows :

1. Development of human resources become the main ingredient as the user in the operation of the computer must already know and understand about the computer application, to minimize the mistakes that occurred in the recording, because this will influence the effectiveness of time and effort.
2. Decision support system and its design is the system so much more widely developed.

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